WHAT IS CLAIMED IS:

1. A beam control processor for use with a transceiver employing an inertial sensor and capable of transmitting a laser beam to an other transceiver, comprising:

a line-of-sight estimation subsystem configured to provide a line-of-sight pointing vector of said laser beam based on acceleration inertial motion data provided by said inertial sensor; and

a line-of-sight control subsystem configured to generate beam steering commands for said transceiver as a function of said line-of-sight pointing vector.

2. The beam control processor as recited in Claim 1 wherein said line-of-sight estimation subsystem is configured to provide said line-of-sight pointing vector of said laser beam based on receiver orientation feedback data and transmit position feedback data associated with said transceiver.

3. The beam control processor as recited in Claim 1 further comprising a coordinate transform subsystem configured to provide line-of-sight data about said other transceiver based on outer control loop data including a line-of-sight pointing data and an inertial motion of said other transceiver.

4. The beam control processor as recited in Claim 3 further comprising a relative line-of-sight estimation subsystem configured to provide line-of-sight commands based on said line-of-sight data about said other transceiver and said line-of-sight pointing vector associated with said transceiver.

5. The beam control processor as recited in Claim 4 wherein said line-of-sight control subsystem is configured to provide said beam steering commands based on said line-of-sight commands and a beam center error associated with said other transceiver.

6. The beam control processor as recited in Claim 1 further comprising a residual beam centering error subsystem configured to provide outer control loop data based on line-of-sight data and a beam centering error of said transceiver.

7. The beam control processor as recited in Claim 1 wherein said line-of-sight control subsystem is configured to provide receiver orientation commands as a function of said line-of-sight pointing vector.

8. A method of providing beam steering commands for use with a transceiver employing an inertial sensor and capable of transmitting a laser beam to an other transceiver, comprising:

providing a line-of-sight pointing vector of said laser beam based on acceleration inertial motion data provided by said inertial sensor; and

generating beam steering commands for said transceiver as a function of said line-of-sight pointing vector.

9. The method as recited in Claim 8 wherein said providing said line-of-sight pointing vector of said laser beam is based on receiver orientation feedback data and transmit position feedback data associated with said transceiver.

10. The method as recited in Claim 8 further comprising providing line-of-sight data about said other transceiver based on outer control loop data including a line-of-sight pointing data and an inertial motion of said other transceiver.

11. The method as recited in Claim 10 further comprising providing line-of-sight commands based on said line-of-sight data about said other transceiver and said line-of-sight pointing vector associated with said transceiver.

12. The method as recited in Claim 11 wherein said generating said beam steering commands is based on said line-of-sight commands and a beam center error associated with said other transceiver.

13. The method as recited in Claim 8 further comprising providing outer control loop data based on line-of-sight data and a beam centering error of said transceiver.

14. The method as recited in Claim 8 further comprising generating receiver orientation commands as a function of said line-of-sight pointing vector.

15. A transceiver, comprising:

a housing that provides a foundation for said transceiver;

an inertial sensor, coupled to said housing, configured to provide acceleration inertial motion data associated with said transceiver;

a transmitter element configured to transmit a transmitted laser beam to an other transceiver;

a receiver element configured to receive a received laser beam from an other transceiver; and

a control processor, coupled to said transmitter and receiver elements, configured to provide beam steering control for said transmitter element and orientation control for said receiver element, including:

a beam control processor, including:

a line-of-sight estimation subsystem configured to provide a line-of-sight pointing vector of said transmitted laser beam based on acceleration inertial motion data provided by said inertial sensor, and

a line-of-sight control subsystem configured to generate beam steering commands for said transmitter element as a function of said line-of-sight pointing vector.

16. The transceiver as recited in Claim 15 wherein said line-of-sight estimation subsystem is configured to provide said line-of-sight pointing vector of said transmitted laser beam based on receiver orientation feedback data and transmit position feedback data associated with said transceiver.

17. The transceiver as recited in Claim 15 wherein said beam control processor further comprises a coordinate transform subsystem configured to provide line-of-sight data about said other transceiver based on outer control loop data including a line-of-sight pointing data and an inertial motion of said other transceiver.

18. The transceiver as recited in Claim 17 wherein said beam control processor further comprises a relative line-of-sight estimation subsystem configured to provide line-of-sight commands based on said line-of-sight data about said other transceiver and said line-of-sight pointing vector associated with said transceiver.

19. The transceiver as recited in Claim 18 wherein said line-of-sight control subsystem is configured to provide said beam steering commands based on said line-of-sight commands and a beam center error associated with said other transceiver.

20. The transceiver as recited in Claim 15 wherein said beam control processor further comprises a residual beam centering error subsystem configured to provide outer control loop data based on line-of-sight data and a beam centering error of said transceiver.

21. The transceiver as recited in Claim 15 wherein said line-of-sight control subsystem is configured to provide receiver orientation commands as a function of said line-of-sight pointing vector.